

Common Construction Defects: The Emerging Issue of CPVC Pipe Failures

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By Timothy "Tim" J.W. Muller on October 6, 2025

As experienced construction defect attorneys who regularly represent contractors and builders throughout South Carolina, we've observed a concerning new trend in the industry: failures in CPVC (Chlorinated Polyvinyl Chloride) piping systems. This relatively recent construction defect is causing significant water damage in both commercial and residential properties, often leading to complex litigation that threatens contractors' businesses and reputations.

While our construction law team has extensive experience working on a wide range of construction defect cases, CPVC pipe failures represent an emerging area that demands specialized legal attention. As we expand our practice to address this growing concern, we're developing strategies to help builders and contractors navigate these complex claims.

Understanding CPVC Piping Systems

CPVC has become increasingly popular in modern construction, particularly in plumbing and fire suppression systems. Through our research and industry connections, we've identified several reasons for its widespread adoption:

- **Cost-effectiveness:** CPVC offers substantial savings compared to copper and other metal piping alternatives
- **Installation efficiency:** The use of solvent cement rather than welding makes installation faster and less labor-intensive
- **Heat tolerance:** Unlike standard PVC, CPVC can withstand higher temperatures, making it suitable for hot water systems
- **Corrosion resistance:** Particularly valuable in Charleston's coastal environment where metal piping deteriorates more rapidly

These advantages have led many builders and contractors to incorporate CPVC into their projects, following industry standards and manufacturer specifications. Despite proper installation procedures, however, some of these systems are now exhibiting unexpected failures.

When Do CPVC Failures Occur?

What makes CPVC pipe failures particularly troublesome for contractors and builders is the timing. Based on industry reports and technical literature, these failures typically occur 3-7

years after installation, after warranties have expired, but well before the expected service life of the system.

This problematic timing creates complex liability questions that require experienced construction law attorneys to address. When failures occur, especially in commercial buildings or multi-unit housing, the resulting water damage can affect multiple systems and units, leading to substantial claims against builders and contractors.

What are the Technical Causes of CPVC Failures?

Our construction law team has studied the emerging technical literature on CPVC failures and have identified several factors that typically contribute to these defects:

Material Incompatibility Issues

One of the primary causes of CPVC failure is incompatibility with common construction materials. Many contractors are unaware that everyday materials used in construction can degrade CPVC pipes, including:

- Fire caulks and sealants containing plasticizers
- Acoustical sealants with chemicals that gradually degrade CPVC
- Communication cables that run through the same ceiling spaces as CPVC piping
- Certain pest control products used in building maintenance

These compatibility issues create defense opportunities when contractors follow proper installation procedures, but were not informed about these material interactions.

Installation and Design Considerations

Even with perfect material compatibility, CPVC systems present unique installation challenges that can lead to disputes:

- Thermal expansion accommodation requirements differ significantly from metal piping
- Support requirements must account for the material's specific properties
- Joint connection techniques require precise application of appropriate solvent cements
- System design must include appropriate stress compensation measures

Understanding these technical factors is essential for building an effective defense strategy in CPVC failure cases.

How Our Construction Law and Litigation Attorneys Can Help

Our team is prepared to apply our extensive construction defect defense experience to this emerging area of CPVC pipe failures. Drawing on our successful track record in other construction defect matters, we're positioned to provide comprehensive defense strategies, including:

Technical Investigation and Expert Consultation

We work with materials scientists, engineers, and construction experts to identify the specific cause of failure among many possibilities, document proper installation techniques and compliance with specifications, evaluate material handling and storage prior to installation, and assess post-installation factors that may have contributed to failures.

Strategic Liability Defense

Our attorneys skillfully navigate the complex liability landscape by:

- Determining appropriate allocation of responsibility among multiple parties
- Identifying post-installation modifications or maintenance issues
- Addressing statute of limitations and statute of repose considerations
- Managing insurance coverage questions across multiple policies and time periods

Resolution-Focused Representation

We prioritize efficient resolution through:

- Mediation when appropriate to minimize litigation costs
- Arbitration proceedings when specified in contracts
- Litigation defense when necessary to protect our clients' interests
- Settlement negotiations that protect our clients' financial and professional standing

Staying Ahead of Emerging Construction Defect Claims

As construction methods and materials evolve, new construction defect claims will continue to emerge. Our **construction litigation attorneys** stay at the forefront of these developments, ensuring we can provide contractors and builders with the most effective defense strategies for both established and emerging construction defects.

If you're a contractor or builder concerned about potential liability for CPVC pipe failures or other construction defect claims, **contact** our experienced construction law team today. Our extensive background in construction defect litigation, combined with our proactive approach to emerging issues like CPVC failures, enables us to develop effective defense strategies to protect your business, assets, and professional reputation.